

WHAT IS CLAIMED IS:

1. An antenna for a portable communication apparatus,
the antenna comprising:

5 a radiator having first and second ends, the first
end of the radiator being connected to radio circuitry in
the portable communication apparatus; and

a feedback conductor having

a first end connected to the second end of the
10 radiator, the feedback conductor extending along the
radiator in a first direction from the second end of the
radiator towards the first end of the radiator, and

a second end extending along the radiator in a
second direction from the first end of the radiator
15 towards the second end of the radiator, for tuning the
frequency of the antenna.

2. The antenna according to claim 1, wherein the
radiator is an elongated helical radiator.

3. The antenna according to claim 2, wherein the
second end of the feedback conductor is wound in at least
one turn outside the helical radiator near the first end
of the helical radiator.

4. The antenna according to claim 1, wherein the
second end of the feedback conductor is isolated and bent
substantially 180°, and at least a portion of the isolated
end of the feedback conductor extends inside at least a
30 portion of the helical radiator substantially in parallel
with a longitudinal axis of the radiator.

5. The antenna according to claim 1, wherein the
second end of the feedback conductor is isolated and bent
35 substantially 180°, and at least a portion of the isolated

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5 6. The antenna according to claim 4, further
comprising a base plate and at least one satellite
radiator that is mounted on the base plate.

8. The antenna according to claim 6, wherein three
15 satellite radiators are mounted at different edges of the
base plate and the helical radiator is positioned between
the three satellite radiators.

10. The antenna according to claim 1, wherein the
radiator and the feedback conductor are enclosed in a
25 dielectric radome.

12. The antenna according to claim 1, wherein the radiator comprises a patch antenna element.

13. A multi-layer printed circuit board, comprising:
35 an antenna including
a radiator having first and second ends, the

first end connected to radio circuitry in the portable communication apparatus; and

a feedback conductor having

- 5 a first end connected to the second end of the radiator, the feedback conductor extending along the radiator in a first direction from the second end of the radiator towards the first end of the radiator, and
- a second end extending along the radiator in a second direction from the first end of the radiator towards the second end of the radiator, for tuning the frequency of the antenna.
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14. A portable communication apparatus comprising:
an antenna including

- 15 a radiator having first and second ends, the first end connected to radio circuitry in the portable communication apparatus; and
- a feedback conductor having
- a first end connected to the second end of the radiator, the feedback conductor extending along the radiator in a first direction from the second end of the radiator towards the first end of the radiator, and
- 20 a second end extending along the radiator in a second direction from the first end of the radiator towards the second end of the radiator, for tuning the frequency of the antenna.
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15. The portable communication apparatus according to claim 14, wherein the antenna is formed as a stub antenna mounted on a housing of the portable communication apparatus.
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16. The portable communication apparatus according to claim 14, wherein the apparatus is a mobile telephone.